

U.S. Patent Application Serial No. **10/574,277**  
Amendment filed October 10, 2008  
Reply to OA dated July 10, 2008

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claims 1-4: (Canceled).

Claim 5 (New): A process for manufacturing a lithium tantalate substrate by using a lithium tantalate crystal grown by the Czochralski method, wherein;

a lithium tantalate crystal worked in the state of a substrate is buried in a mixed powder of 25% by weight of Al and 75 % by weight of  $\text{Al}_2\text{O}_3$ , followed by heat treatment carried out at a temperature kept to from 350 to 600°C for 20 hours in an atmosphere of nitrogen gas and under reduced pressure, to manufacture a lithium tantalate substrate having volume resistivity which has been controlled within the range of from  $10^{10}$  to  $10^{13}$   $\Omega\text{cm}$ .

Claim 6: (New): A process for manufacturing a lithium tantalate substrate by using a lithium tantalate crystal grown by the Czochralski method, wherein;

a lithium tantalate crystal worked in the state of a substrate is buried in a mixed powder of 10% by weight of Al and 90 % by weight of  $\text{Al}_2\text{O}_3$ , followed by heat treatment carried out at a temperature kept to from 350 to 600°C for 20 hours in an atmosphere of nitrogen gas and under reduced pressure, to manufacture a lithium tantalate substrate

U.S. Patent Application Serial No. **10/574,277**  
Amendment filed October 10, 2008  
Reply to OA dated July 10, 2008

having volume resistivity which has been controlled within the range of from  $10^{10}$  to  $10^{13}$   $\Omega\text{cm}$ .

Claim 7 (New): A process for manufacturing a lithium tantalate substrate by using a lithium tantalate crystal grown by the Czochralski method, wherein;

a lithium tantalate crystal worked in the state of a substrate is buried in a mixed powder of 50% by weight of Al and 50 % by weight of  $\text{Al}_2\text{O}_3$ , followed by heat treatment carried out at a temperature kept to from  $550^\circ\text{C}$  for 40 hours in an atmosphere of nitrogen gas and under atmospheric pressure, to manufacture a lithium tantalate substrate having volume resistivity which has been controlled within the range of from  $10^{10}$  to  $10^{13}$   $\Omega\text{cm}$ .

Claim 8 (New): A process for manufacturing a lithium tantalate substrate by using a lithium tantalate crystal grown by the Czochralski method, wherein;

a lithium tantalate crystal worked in the state of a substrate is buried in a mixed powder of 25% by weight of Al and 75 % by weight of  $\text{Al}_2\text{O}_3$ , followed by heat treatment carried out at a temperature kept to from  $550^\circ\text{C}$  for 10 hours in an atmosphere of vacuum, to manufacture a lithium tantalate substrate having volume resistivity which has been controlled within the range of from  $10^{10}$  to  $10^{13}$   $\Omega\text{cm}$ .